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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,899	09/30/2003	Sung-Tae Joo	CU-3335 VE	6140

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EXAMINER	
GUIDOTTI, LAURA COLE	
ART UNIT	**PAPER NUMBER**
1744	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/675,899	JOO, SUNG-TAE	
	Examiner	Art Unit	
	Laura C. Guidotti	1744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 12-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 12-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11062006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The Information Disclosure Statement of 06 November 2006 has been considered, however several of the cited documents (the ones with lines drawn through the citations) have been previously considered prior to this submission.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 4, 6-8, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worwag, US 2001/0008036 in view of MacFarland, US 2,668,979 and further in view of Lee, GB 2 324 712.

Worwag discloses the claimed invention including a brush body including an upper casing (upper portion of 2, only shown in Figure 1) and a lower casing (lower portion of 2 and 4, Figure 2), the lower casing having sidewalls (5) and a suction slot (20) through which air is drawn in (paragraph 32), the brush body including a discharge pipe (3) at a rear side of the brush body (see Figures), an agitator unit rotatably supported at the lower casing (10; paragraph 32) and having bristles (11) at predetermined intervals (Figure 2), a turbine unit rotatably supported adjacent the lower casing (12; Figure 2; paragraph 31) and being rotated by the air drawn into the vacuum cleaner by suction (paragraph 32), and a power transfer unit connecting the agitator unit and the turbine unit (includes 15, 16, paragraph 31) so as to rotate the agitator unit in association with the turbine unit (paragraph 31). Regarding claim 4, the agitator unit

further comprises an agitator (10) and a connecting member fixed at each of the sidewalls of the lower casing to support the agitator (8, paragraph 32). Regarding claim 6, the turbine unit comprises a turbine (12), a turbine shaft (14), and a second retainer to support the turbine shaft (where an end is retained, Figure 2). Regarding claim 7, the power transfer unit further comprises a first pulley disposed around a shaft of the turbine unit (15, Figure 2), a second pulley disposed around a rotating agitator shaft of the agitator unit (unlabeled, see rightmost end of 10 in Figure 2), and a connection includes a belt connecting the first pulley and the second pulley (16; Figure 2). Regarding claim 18, the material of the surface to be cleaned is capable of being a blanket or other fabric (paragraph 5). Worwag does not include that the suction slot (20) includes a plurality of ribs and that the bristles are positioned at the predetermined intervals between the ribs of the suction slot. Worwag also does not disclose a locking unit attached to a rear portion of the discharge pipe.

MacFarland teaches a vacuum cleaner nozzle that has a suction slot (unlabeled, facing into the page as shown in Figure 2) that includes a plurality of ribs (18) to prevent the surface being cleaned from being drawn into the brush body by the suction force (Column 3 Lines 12-17) and the bristles (13) are positioned at predetermined intervals between the ribs of the suction slot (as shown in Figures 2-3) so that at least a part of the bristles passes through the suction slot and comes into contact with the surface being cleaned (as shown in Figure 3; Column 3 Lines 8-12), whereby the ribs are capable of inhibiting loose material of the surface being cleaned from being drawn into

the turbine brush (Column 3 Lines 12-17). Regarding claim 8, each of the ribs is shaped and configured to increase in width from the middle toward one end (Figure 2).

Lee teaches a vacuum cleaner having a brush body (13) including a discharge pipe at a rear side of the brush body (13a; Figure 4), a locking unit attached to a rear portion of the discharge pipe (locking unit comprises entirety of 150), the locking unit comprising a hook member (160a in Figure 5 or the one that is unlabeled in Figure 7-8) and a button (the top edge of 150 nearest spring 165 or the one that is unlabeled in Figure 7-8), the hook member being capable of engaging a coupling recess (135) in an extension pipe (16) inserted into the discharge pipe (Page 9 Lines 19-23), the hook member being disengaged from the coupling recess by operation of the button (Page 9 Lines 19-23).

It would have been obvious for one of ordinary skill in the art to modify the turbine brush of Worwag to further include a plurality of ribs in the suction slot and to modify the bristles so that they are positioned at intervals between the ribs of the suction slot, as MacFarland teaches, so that the surface being cleaned is not drawn by suction into the nozzle or turbine brush and further it would have been obvious for one of ordinary skill in the art to modify the turbine brush of Worwag and MacFarland to include a locking unit attached to a rear portion of the discharge pipe, as Lee teaches, so that a user can easily separate the turbine brush from an extension pipe.

3. Claims 1, 4-8, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224 in view of MacFarland, US 2,668,979 and further in view of Lee, GB 2 324 712.

Magarian discloses the claimed invention including a brush body including an upper casing (50) and a lower casing (52), the lower casing having sidewalls (unlabeled, see Figures) and a suction slot through which air is drawn in (58), an agitator unit rotatably supported at the lower casing (60) and having bristles (64) at predetermined intervals (Figure 3), a turbine unit rotatably supported adjacent the lower casing (76) and being rotated by the air drawn into the vacuum cleaner by suction (Column 3 Lines 54-62), and a power transfer unit connecting the agitator unit and the turbine unit (includes 84, 82, 86;) so as to rotate the agitator unit in association with the turbine unit (Column 3 Lines 5-15). Regarding claim 4, the agitator unit further comprises an agitator (60) and a connecting member fixed at each of the sidewalls of the lower casing to support the agitator (202, Figure 9). Regarding claim 5, the connecting member comprises a bearing (202) to support a rotating shaft of the agitator and a first retainer surrounding the bearing (210; Figure 9), and at each of the sidewalls of the lower casing is formed a guide wall to removably support the first retainer (203; Column 5 Lines 64-68). Regarding claim 6, the turbine unit comprises a turbine (76), a turbine shaft (782 or 78, appears to be mislabeled in the description or drawings, Column 2 Line 72 to Column 3 Line 2), and a second retainer to support the turbine shaft (where an end is retained, Figure 8). Regarding claim 7, the power transfer unit further comprises a first pulley disposed around a shaft of the turbine unit (82, Figure 6), a second pulley disposed around a rotating agitator shaft of the agitator unit (84, Figure 6), and a connection includes a belt connecting the first pulley and the second pulley (86, Figure 6). Regarding claim 18, the material of the surface to be cleaned is capable

of being a blanket or other fabric (paragraph 5). Magarian does not include that the suction slot (58) includes a plurality of ribs and that the bristles are positioned at the predetermined intervals between the ribs of the suction slot. Magarian also does not disclose a locking unit attached to a rear portion of the discharge pipe.

MacFarland teaches a vacuum cleaner nozzle that has a suction slot (unlabeled, facing into the page as shown in Figure 2) that includes a plurality of ribs (18) to prevent the surface being cleaned from being drawn into the brush body by the suction force (Column 3 Lines 12-17) and the bristles (13) are positioned at predetermined intervals between the ribs of the suction slot (as shown in Figures 2-3) so that at least a part of the bristles passes through the suction slot and comes into contact with the surface being cleaned (as shown in Figure 3; Column 3 Lines 8-12), whereby the ribs are capable of inhibiting loose material of the surface being cleaned from being drawn into the turbine brush (Column 3 Lines 12-17). Regarding claim 8, each of the ribs is shaped and configured to increase in width from the middle toward one end (Figure 2).

Lee teaches a vacuum cleaner having a brush body (13) including a discharge pipe at a rear side of the brush body (13a; Figure 4), a locking unit attached to a rear portion of the discharge pipe (locking unit comprises entirety of 150), the locking unit comprising a hook member (160a in Figure 5 or the one that is unlabeled in Figure 7-8) and a button (the top edge of 150 nearest spring 165 or the one that is unlabeled in Figure 7-8), the hook member being capable of engaging a coupling recess (135) in an extension pipe (16) inserted into the discharge pipe (Page 9 Lines 19-23), the hook

member being disengaged from the coupling recess by operation of the button (Page 9 Lines 19-23).

It would have been obvious for one of ordinary skill in the art to modify the turbine brush of Magarian to further include a plurality of ribs in the suction slot and to modify the bristles so that they are positioned at intervals between the ribs of the suction slot, as MacFarland teaches, so that the surface being cleaned is not drawn by suction into the nozzle or turbine brush and further it would have been obvious for one of ordinary skill in the art to modify the turbine brush of Magarian and MacFarland to include a locking unit attached to a rear portion of the discharge pipe, as Lee teaches, so that a user can easily separate the turbine brush from an extension pipe.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224, MacFarland, US 2,668,979, and Lee GB 2 324 712 as applied to claim 1, in view of Blase, US 5,455,984.

Magarian, MacFarland, and Lee disclose all elements above, however do not disclose that the upper casing is transparent.

Blase teaches the use of using a transparent casing portion (168) so that a user can observe dirty water that is being removed with a vacuum cleaning/water extraction machine (Column 6 Lines 20-23).

It would have been obvious for one of ordinary skill in the art to modify the upper casing of Magarian, MacFarland, and Lee to be transparent, as Blase teaches, so that a user while cleaning can observe debris that is being removed from the surface that is being cleaned.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224, MacFarland, US 2,668,979, and Lee GB 2 324 712 as applied to claim 1, in view of Allgeier et al., US 6,513,190.

Magarian, MacFarland, and Lee disclose all elements above, however do not disclose that the upper and lower casings comprise at least a first tab formed at a front portion of the upper casing and a second tab formed at a rear portion of the upper casing and a slot corresponding to the first tab formed at a front portion of the lower casing and a locking member corresponding to the second tab formed at a rear portion of the lower casing. It is noted that Magarian has the upper and lower casings that include one continuous tab and slot so that the casing is attached entirely (at 54, see Figures 1, 2, and 6).

Allgeier et al. teaches a turbine brush that is very similar to one of Magarian and further includes an upper casing (2) and a lower casing (4) wherein there are first tabs formed at a front portion of the lower casing (170, 172, 174, 176) and corresponding slots that correspond to the first tabs (178, 180, 182, and 184) and a second tab formed at a rear portion of the lower casing (164, 166; Column 4 Lines 35-36) and a locking member corresponding to the second tab formed at the rear portion of the upper casing (190, 192; Column 4 Lines 36-38, see Figures 3-5, 8, 9, and 9A particularly) in order to assemble and latch the turbine brush (Column 4 Lines 26-41). It is noted that in Allgeier et al., the tabs, slots, and locking portion are on the opposite of the upper and lower casings.

It would have been obvious for one of ordinary skill in the art to modify the attachment configuration of Magarian, MacFarland, and Lee to further include the first tab, the slot corresponding to the first tab, a second tab, and a locking member, as Allgeier et al. teach, in order to assemble and latch upper and lower casings of a turbine brush and further it would have been obvious to configure the first tab, slot, second tab, and locking member of Magarian, MacFarland, and Allgeier et al. so that the first tab is formed at a front portion of the *upper* casing and a second tab is formed at a rear portion of the *upper* casing and a slot corresponding to the first tab is formed at a front portion of the *lower* casing and a locking member corresponding to the second tab is formed at a rear portion of the *lower* casing as it is an obvious reversal of component locations and one of ordinary skill in the art would recognize that these components, when reversed, would be expected and capable of performing equally as well. (See MPEP 2144.04 VI A).

6. Claims 9, 13-17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224, in view of MacFarland, US 2,668,979, Lee GB 2 324 712, and Blase, US 5,455,984.

Regarding claim 9, Magarian includes all elements mentioned above and further includes a discharging pipe (140) connected to a rear portion of the brush body (Figure 2). Regarding claim 13, the agitator unit further comprises an agitator (60) and a connecting member fixed at each of the sidewalls of the lower casing to support the agitator (202, Figure 9). Regarding claim 14, the connecting member comprises a bearing (202) to support a rotating shaft of the agitator and a first retainer surrounding

the bearing (210; Figure 9), and at each of the sidewalls of the lower casing is formed a guide wall to removably support the first retainer (203; Column 5 Lines 64-68). Regarding claim 15, the turbine unit comprises a turbine (76), a turbine shaft (782 or 78, appears to be mislabeled in the description or drawings, Column 2 Line 72 to Column 3 Line 2), and a second retainer to support the turbine shaft (where an end is retained, Figure 8). Regarding claim 16, the power transfer unit further comprises a first pulley disposed around a shaft of the turbine unit (82, Figure 6), a second pulley disposed around a rotating agitator shaft of the agitator unit (84, Figure 6), and a connection includes a belt connecting the first pulley and the second pulley (86, Figure 6). Regarding claim 19, the material of the surface to be cleaned is capable of being a blanket or other fabric (paragraph 5). Magarian does not include that the suction slot (58) includes a plurality of ribs and that the bristles are positioned at the predetermined intervals between the ribs of the suction slot and also Magarian does not include that the upper casing is made from a transparent material. Magarian also does not disclose a locking unit attached to a rear portion of the discharge pipe.

MacFarland discloses all elements above, in particular MacFarland teaches a vacuum cleaner nozzle that has a suction slot (unlabeled, facing into the page as shown in Figure 2) that includes a plurality of ribs (18) to prevent the surface being cleaned from being drawn into the brush body by the suction force (Column 3 Lines 12-17) and the bristles (13) are positioned at predetermined intervals between the ribs of the suction slot (as shown in Figures 2-3) so that at least a part of the bristles passes through the suction slot and comes into contact with the surface being cleaned (as

shown in Figure 3; Column 3 Lines 8-12), whereby the ribs are capable of inhibiting loose material of the surface being cleaned from being drawn into the turbine brush (Column 3 Lines 12-17). Regarding claim 17, each of the ribs is shaped and configured to increase in width from the middle toward one end (Figure 2).

Lee discloses all elements above, particularly Lee teaches a vacuum cleaner having a brush body (13) including a discharge pipe at a rear side of the brush body (13a; Figure 4), a locking unit attached to a rear portion of the discharge pipe (locking unit comprises entirety of 150), the locking unit comprising a hook member (160a in Figure 5 or the one that is unlabeled in Figure 7-8) and a button (the top edge of 150 nearest spring 165 or the one that is unlabeled in Figure 7-8), the hook member being capable of engaging a coupling recess (135) in an extension pipe (16) inserted into the discharge pipe (Page 9 Lines 19-23), the hook member being disengaged from the coupling recess by operation of the button (Page 9 Lines 19-23).

Blase teaches the use of using a transparent casing portion (168) so that a user can observe dirty water that is being removed with a vacuum cleaning/water extraction machine (Column 6 Lines 20-23).

It would have been obvious for one of ordinary skill in the art to modify the turbine brush of Magarian to further include a plurality of ribs in the suction slot and to modify the bristles so that they are positioned at intervals between the ribs of the suction slot, as MacFarland teaches, so that the surface being cleaned is not drawn by suction into the nozzle or turbine brush, and further it would have been obvious for one of ordinary skill in the art to modify the turbine brush of Magarian to include a locking unit attached

to a rear portion of the discharge pipe, as Lee teaches, so that a user can easily separate the turbine brush from an extension pipe, and also further it would have been obvious for one of ordinary skill in the art to modify the upper casing of Magarian to be transparent, as Blase teaches, so that a user while cleaning can observe debris that is being removed from the surface that is being cleaned.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Magarian, US 3,005,224, MacFarland, US 2,668,979, Lee, GB 2 324 712, and Blase, US 5,455,984 as applied to claim 9, in view of Allgeier et al., US 6,513,190.

Magarian, MacFarland, Lee, and Blase disclose all elements above, however do not disclose that the upper and lower casings comprise at least a first tab formed at a front portion of the upper casing and a second tab formed at a rear portion of the upper casing and a slot corresponding to the first tab formed at a front portion of the lower casing and a locking member corresponding to the second tab formed at a rear portion of the lower casing. It is noted that Magarian has the upper and lower casings that include one continuous tab and slot so that the casing is attached entirely (at 54, see Figures 1, 2, and 6).

Allgeier et al. teaches a turbine brush that is very similar to one of Magarian and further includes an upper casing (2) and a lower casing (4) wherein there are first tabs formed at a front portion of the lower casing (170, 172, 174, 176) and corresponding slots that correspond to the first tabs (178, 180, 182, and 184) and a second tab formed at a rear portion of the lower casing (164, 166; Column 4 Lines 35-36) and a locking member corresponding to the second tab formed at the rear portion of the upper casing

(190, 192; Column 4 Lines 36-38, see Figures 3-5, 8, 9, and 9A particularly) in order to assemble and latch the turbine brush (Column 4 Lines 26-41). It is noted that in Allgeier et al., the tabs, slots, and locking portion are on the opposite of the upper and lower casings.

It would have been obvious for one of ordinary skill in the art to modify the attachment configuration of Magarian, MacFarland, Lee, and Blase to further include the first tab, the slot corresponding to the first tab, a second tab, and a locking member, as Allgeier et al. teach, in order to assemble and latch upper and lower casings of a turbine brush and further it would have been obvious to configure the first tab, slot, second tab, and locking member of Magarian, MacFarland, Lee, Blase, and Allgeier et al. so that the first tab is formed at a front portion of the *upper* casing and a second tab is formed at a rear portion of the *upper* casing and a slot corresponding to the first tab is formed at a front portion of the *lower* casing and a locking member corresponding to the second tab is formed at a rear portion of the *lower* casing as it is an obvious reversal of component locations and one of ordinary skill in the art would recognize that these components, when reversed, would be expected and capable of performing equally as well. (See MPEP 2144.04 VI A).

Response to Arguments

8. Applicant's arguments with respect to claims 1-9 and 12-19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 7155774 display a very similar locking mechanism to one of the present invention, however the filing date of US 7155774 is after the date of the present application.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LCG

GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER